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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/084,088      | 02/28/2002  | Martin M. Deneroff   | 1452 . 3730000      | 6760             |

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STERNE, KESSLER, GOLDSTEIN & FOX PLLC  
1100 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005

EXAMINER

KIM, HONG CHONG

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2186

DATE MAILED: 06/04/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/084,088

Applicant(s)

DENEROFF, MARTIN M.

Examiner

Hong C Kim

Art Unit

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-14 15-25, 34-39 41 is/are allowed.
- 6) ☐ Claim(s) 26,29,30 and 40 is/are rejected.
- 7) ☒ Claim(s) 27 28 31-33 is/are objected to.
- 8) ☒ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2 and 3.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2186

**Detailed Action**

1. Claims 1-41 are presented for examination. This office action is in response to the application filed on 2/28/02.
2. Receipt is acknowledged of information disclosure statements filed on 7/10/2002 and 3/31/2003, which the statements have been placed of record in the file. Information disclosed and listed on PTO 1449 was considered.

***Specification***

3. The status of the related U.S. applications or foreign applications must be updated accordingly (e.g., U.S. Patent Application Serial No. ####,### filed Sept. 07, 1990, now abandoned; ..., now U.S. Patent #,###,### issued Jan. 01, 1994; or This application is a continuation of Serial Number ####,###, filed on December 01, 1990, now abandoned; ...etc.) in the Related Applications section and in any other corresponding area in the specification, if any.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Carpenter et al. (Carpenter) U.S. Patent 6,115,804.

As to claim 40, Carpenter discloses the invention as claimed. Carpenter discloses a system for maintaining cache coherency using a directory-based (Fig. 2 Ref. 50) environment in a distributed shared memory (DSM) system (abstract, each processing node includes a system memory reads on this limitation), comprising: a means for receiving a request to access information (col. 4 lines 60+, MESI and TABLE VI); a means for determining whether said access request originates from a local node or a remote node (col. 4 lines 60+, MESI and TABLE VI since MESI protocol provides different responses based on own state and whether a request is originated from local or remote ); a means for processing said access request differently depending on whether said access request originates from said local node or from said remote node (col. 4 lines 60+, MESI and TABLE VI since MESI protocol provides different responses based on own state and whether a request is originated from local or remote).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

5. Claims 26, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimmel et al. (Kimmel) U.S. Patent 5,713,004 in view of Carpenter et al. (Carpenter) U.S. Patent 6,115,804.

As to claim 26, Kimmel discloses a method for cache coherence in a shared memory multiprocessor system (Fig. 4) comprising: (1) receiving a first shared access request by a receiving node, wherein the receiving node contains shared information (col. 6 lines 40-41); (2) receiving a second shared access request by the receiving node (col. 6 lines 40-41); (3) processing one of a first and a second shared access requestor as an exclusive access request (abstract bottom), however, Kimmel does not specifically disclose transmitting an intervention request to other of the first and the second shared access requestor in a distributed shared memory (DSM).

Carpenter discloses transmitting an intervention request to other of the first and the second shared access requestor in a distributed shared memory (DSM) (col. 3 lines 5-10, cache to cache transfers) for the purpose of improving data access time by eliminating data access through much slower main memory.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate transmitting an intervention request to other of the first and the second shared access requestor in a distributed shared memory (DSM) as taught by Carpenter into the system of Kimmel for the advantages stated above.

As to claim 29, Kimmel further discloses processing as the shared access request to one of the first and the second shared access request when the other of the first and the second shared access originates from a local node (col. 5 lines 1-16).

As to claim 30, Kimmel further discloses invalidating an exclusive access of one of the first and the second shared access request originating from a remote node when the other of the first and the second shared access request originates from a local node (col. 5 lines 1-16).

***Allowable Subject Matter***

6. Claims 1-14 15-25, 34-39 and 41 are allowed.

Claims 27, 28, and 31-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached PTO-892.

A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) days from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 USC 133,

MPEP 710.02, 710.02(b)).

When responding to the office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections. See 37 C.F.R. ' 1.111(c).

When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist examiner to locate the appropriate paragraphs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong C Kim whose telephone number is 703-305-3835. The examiner can normally be reached on M-F 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt M Kim can be reached on (703) 305-3821. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to TC-2100:**  
(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121  
Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Information regarding the status of an application may be obtained from the  
Patent Application Information Retrieval (PAIR) system. Status information for  
published applications may be obtained from either Private PAIR or Public PAIR.  
Status information for unpublished applications is available through Private PAIR only.  
For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should  
you have questions on access to the Private PAIR system, contact the Electronic  
Business Center (EBC) at 866-217-9197 (toll-free).

  
HK  
Primary Patent Examiner  
May 28, 2004